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UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5804421

[Link to Claims Section](#)

September 8, 1998

High level of expression of ingap in bacterial and eukaryotic cells

**REISSUE:** Reissue Application filed Sep. 8, 2000 (O.G. Nov. 21, 2000) Ex. Gp.: 1652; Re. S.N. 09/659,379, (O.G. November 21, 2000)


**APPL-NO:** 909725 (08)


**FILED-DATE:** August 12, 1997

**GRANTED-DATE:** September 8, 1998


**ENGLISH-ABST:**

Removal of the nucleotide sequence encoding the signal peptide from the INGAP coding sequence allows cultured cells to express substantial amounts of INGAP activity. Previous attempts have provided only low yields of INGAP, possibly because the signal sequence of INGAP is toxic to the cells.

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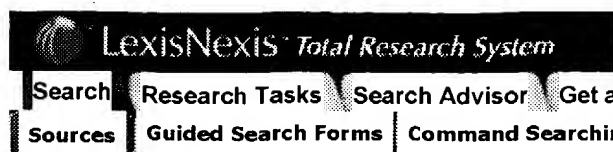
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Patent Number :

US5804421 A 19980908 [US5804421]

Title :

(A) High level of expression of ingap in bacterial and eukaryotic cells

Patent Assignee :

Searched by P. Ruppel

(A) EASTERN VIRGINIA MEDICAL SCHOO (US)  
**Patent Assignee :**  
Eastern Virginia Medical School of the Medical College fo Hampton Roads,  
Norfolk VA [US]  
**Inventor(s) :**  
(A) VINIK AARON I (US); PITTENGER GARY L (US); RAFAELOFF-PHAIL RONIT  
(US); BARLOW SCOTT W (US)  
**Application Nbr :**  
US90972597 19970812 [1997US-0909725]  
**Filing Details :**  
C.I.P. of US741096 19961030 [1996US-0741096] (Abandoned)  
**Priority Details :**  
US74109696 19961030 [1996US-0741096]  
US90972597 19970812 [1997US-0909725]  
**Intl Patent Class :**  
(A) C12N-015/00  
**EPO ECLA Class :**  
C07K-014/47A22  
**EPO ICO Class :**  
M07K-207/00  
M07K-211/00  
**US Patent Class :**  
ORIGINAL (O) : 435069100; CROSS-REFERENCE (X) : 435252300 435320100  
530350000 536023100 536023500 536024100  
**Document Type :**  
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**Citations :**  
US4439521; US4935000; US4965188  
Stein et al., "Antisense Oligonucleotides as Therapeutic Agents--Is the  
Bet Really Magical?", Science 261:1004-1012 (1993).  
  
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**Publication Stage :**

(A) United States patent

**Abstract :**

Removal of the nucleotide sequence encoding the signal peptide from the INGAP coding sequence allows cultured cells to express substantial amounts of INGAP activity. Previous attempts have provided only low yields of INGAP, possibly because the signal sequence of INGAP is toxic to the cells.

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